

REMARKS

In the Office Action, the Examiner noted that claims 1-25 are pending in the application and that claims 1-25 are rejected. By this response, claims 1, 16, and 22 have been amended. Thus, claims 1-25 are pending in the application.

Rejections Under 35 U.S.C. §112, second paragraph

Claims 1-25 are rejected under 35 U.S.C. §112, second paragraph, as failing to comply with the written description requirement. The Examiner asserts that the claim(s) contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Applicant respectfully disagrees with the assertion made by the Examiner.

Applicant herein submits four references that detail the construction of doughnut-type relays that wrap around a power leg of a circuit in order to detect current flow through the circuit without invading or electrically connecting directly with the circuit. In the originally filed patent application (see paragraph 42 of US Patent Application 2005-0183778 A1), Applicant provides two suitable relays that are presently commercially available, such as Model No. RIBXLCA, sold by Functional Devices, Inc., as well as Model No. RIBU1C, also sold by Functional Devices, Inc. Such relays are configured to detect current flow through an electrical wire without directly electrically coupling to the wire. Instead, a current sensor is wrapped around a power leg of a circuit with a doughnut-type

relay (see paragraphs 39 and 40 of US Patent Application 2005-0183778 A1). Essentially, an electrical wire is encircled by a relay that detects current flow when a switch is turned on in order to turn on the fixture (see paragraph 23 of US Patent Application 2005-0183778 A1). Applicant herein maintains the position that the term "electrically non-invasive" is taught or suggested by the originally filed specification and is not considered to be new matter. Such claim limitation comprises subject matter which was described in the specification in such a way as to reasonably convey to one skilled in the relevant arts that the inventors, at the time the application filed, had possession of the claimed invention.

Section 112, first paragraph rejections require that the specification of a patent application include 1. a written description of the invention, 2. an enabling description of the invention (i.e. how to make and use the invention), and 3. a best mode description contemplated by the inventor of the invention. In order for the Examiner to show a prima facie case of non-enablement under this test, the Examiner must provide: 1. a rational basis as to a. why the disclosure does not teach or b. why to doubt the objective truth of the statements in the disclosure that purport to teach, 2. the manner and process of making and using the invention, 3. that corresponds in scope to the claimed invention, 4. to one of ordinary skill in the pertinent technology, 5. without undue experimentation, and 6. dealing with subject matter this would not already be known to the skilled person as of the filing date of the application. In order to maintain a first paragraph § 112 rejection, the Examiner must provide evidence from the application supporting each of these elements.

The Examiner has not provided such evidence. Accordingly, Applicant traverses such rejection.

In order to expedite prosecution, Applicant has herein amended independent claims 1, 16, and 22. Secondly, Applicant has enclosed by way of a Supplemental Information Disclosure Statement a catalog from Functional Devices, Inc. which includes a first reference having information for Model No. RIBXCLA and RIBU1C, current sensor-start/stop relay assemblies. More particularly, the "RIB® Functional Devices, Inc. catalog A600C 2005 reference is a 136 page catalog. On page 62, the sensor/relay assembly RIBXLCA is shown as a T-type style current sensor with a relay having an internal sensor. Such device has a single SPDT duty coil (see also page 70). At page 130, sensor/relay RIBXLCA is shown as a relay and a current sensor provided in a single package which does not require the addition of an external sensor ring.

A specification sheet for sensor/relay RIBXLCA is provided as a second reference. Such reference clearly indicates that sensor/relay RIBXLCA has an enclosed internal adjustable .50-10 Amp current sensor and a relay 10 Amp SPDT with 10-30 Vac/dc coil.

As a third reference, a doughnut-type relay (or toroidal sensor) is shown in a reference by Abb Inc., "AC Current Sensor, PLC Interface Module". Such reference indicates that a toroidal sensor is used to monitor an insulated conductor without electrically invasively connecting with the conductor. Such reference provides an alternative sensor configuration for detecting current flow through an insulated conductor by way of magnetic coupling (i.e. electrically non-invasive) techniques.

Finally, a fourth reference is provided by R. Dickinson et al., "Isolated Open Loop Current Sensing Using Hall Effect Technology in an Optimized Magnetic Circuit". Figure 2 illustrates an open loop hall effect sensor that does not directly electrically couple with a primary conductor. Instead, a coil is provided around the primary conductor in order to magnetically couple with the primary conductor and detect current flow through the primary conductor without directly electrically coupling to the primary conductor. Figure 2 shows a closed loop hall effect sensor in a configuration similar to Figure 2. Figure 6 shows an open loop hall effect sensor configured about a primary conductor in a manner that magnetically couples with the primary conductor in order to sense current flow through the primary conductor and without directly electrically coupling with the primary conductor. Finally, Figure 7 shows the configuration of a doughnut sensor provided about a primary conductor in order to magnetically couple with the primary conductor without directly electrically coupling with the conductor in order to detect current flow through the conductor in an electrically non-invasive manner.

In summary, the current sensor and relay configurations taught in the present application detect current flow through a primary conductor that generates a magnetic field that in turn magnetically couples with the doughnut-shaped sensor to generate a current through the sensor that is detected by a relay. Such disclosure in the originally filed application would be understood to one of order skill in the pertinent technology and would be achieved without undue experimentation. The Examiner has failed to show evidence

from the application supporting each of the previously recited six elements for presenting a prima facie case of non-enablement which is required under § 112, first paragraph.

In an effort to expedite prosecution, Applicant has herein amended claims 1, 16 and, 22 to clarify the language in the claims. Such amendments include the term "magnetic coupling" between the primary conductor and the sensor and further provides a limitation that indicates there is no direct electrical connection between the sensor and the primary conductor (or circuit).

Hence, Applicant asserts that claims 1-25 are amended by way of independent claims 1, 16, and 22 and overcomes the §112, second paragraph rejection, and withdrawal of the rejections is respectfully requested.

CONCLUSION


For all the reasons advanced above, Applicant respectfully submits that the application is in condition for allowance, and action to that end is respectfully requested. If the Examiner's next anticipated action is to be anything other than a Notice of Allowance, the undersigned respectfully requests a telephone interview before issuance of any such subsequent action.

Respectfully submitted,

Dated: _____

11/03/05

By: _____


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